

### **Abstract**

A mutant hydrolase optionally fused to a protein of interest is provided. The mutant hydrolase is capable of forming a bond with a substrate for the  
5 corresponding nonmutant (wild-type) hydrolase which is more stable than the bond formed between the wild-type hydrolase and the substrate. Substrates for hydrolases comprising one or more functional groups are also provided, as well as methods of using the mutant hydrolase and the substrates of the invention. Also provided is a fusion protein capable of forming a stable bond with a substrate and  
10 cells which express the fusion protein.